

PO-11-1 Lake Borgne Shoreline Protection at Bayou Dupre

Coast 2050 Strategy - Regional Ecosystem Strategy #11; Maintain shoreline integrity of Lake Borgne.

Project Location - Region 1; Pontchartrain Basin; St. Bernard Parish; south-west shoreline of Lake Borgne on either side of Bayou Dupre.

Problem - The narrow strip of marsh between Lake Borgne and the Mississippi River Gulf Outlet (MRGO) in the vicinity of Bayou Dupre is disappearing. The opening between Lake Borgne and the MRGO in this area is estimated to be approximately 550 feet wide. Shoreline erosion rates in the area have been estimated to be about 10 feet per year. At this rate, the opening at Bayou Dupre will be 2,300 feet across in 20 years. Interior marsh loss would likely speed this process. This project is necessary to maintain and restore the narrow strip of land that remains between Lake Borgne and the MRGO. The project would address the problem of shoreline erosion and the coalescence of Lake Borgne with the MRGO through shoreline protection in Lake Borgne with the opportunity for marsh creation.

Goals - The goals are a) to prevent or reduce Lake Borgne shoreline retreat in the area adjacent to Bayou Dupre; b) to prevent further coalescence of the lake and the MRGO; c) to re-establish a sustainable lake rim; and d) to prevent or reduce conversion of emergent marsh to open water.

Proposed Solution - Continuous nearshore rock breakwaters would be constructed 1.2 miles to the east and 1.6 miles to the west of Bayou Dupre. The design of the breakwaters would roughly follow that used for the PPL 10 project, Shore Protection in Lake Borgne at Shell Beach. The breakwaters would tie into those present along the north bank of the MRGO and extend into the lake to about the -2-foot contour. Openings would be included in the breakwaters at a minimum of every 1,000 feet. Offset breakwaters would be built in front of the openings.

Project Benefits - The project would benefit 98 acres of marsh and shallow open water. Approximately 83 acres of marsh would be created/protected over the 20-year project life.

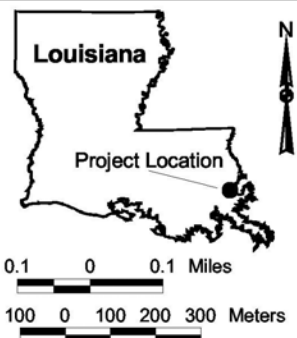
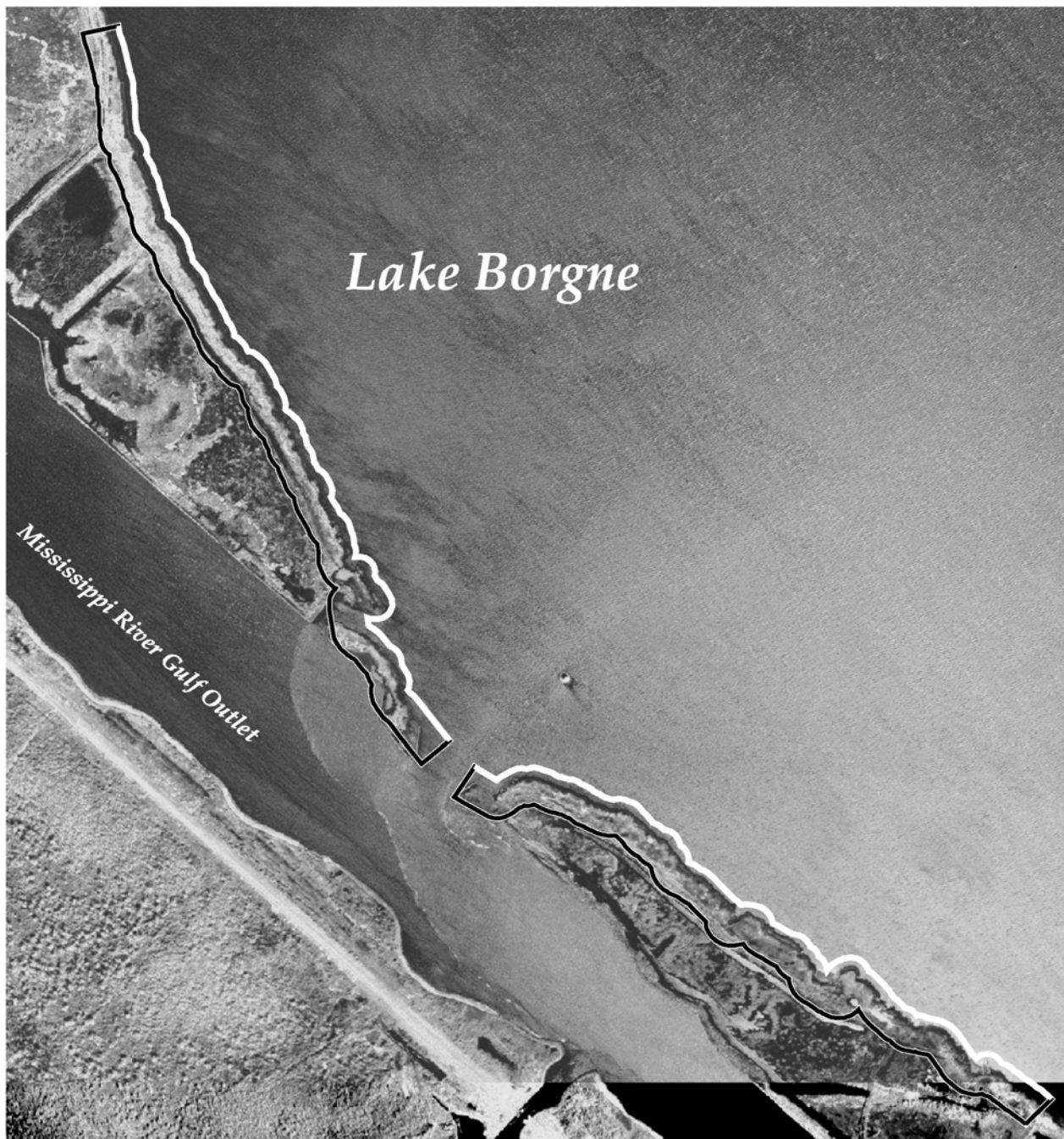
Project Costs - The total fully funded cost is \$11,928,100. The fully funded first cost is \$7,980,900.



Risk/Uncertainty and Longevity/Sustainability - There is a low degree of risk associated with this project because monitoring of past projects has indicated that breakwaters significantly reduce erosion. The project should continue providing benefits beyond 20 years after construction because some rocks will be replaced at years 3 and 14.

Sponsoring agency and Contact Person - National Marine Fisheries Service

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 Project area
 Shoreline Protection

Data Source:
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station

LA Department of Natural Resources
Coastal Restoration Division

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CWPPRA PPL11
Region 1

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